Alex Hanson

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Experience:

Data Engineer (Contract) - USFCA C.S. Dep.   *January 2020 - May 2020*
- Developed an automated tool for Dep. chair to predict which C.S. classes needed to be offered resulting in a class scheduler for upcoming academic year
- Revised database schema, discussed system design with Dep. chair, & implemented new tools
- Designed and automated a batch processor and database querying system using MySQL and Openpyxl
- Enabled the Dep. chair to determine which classes should be offered to students for the upcoming semester

Teacher's Assistant, CS110/CS186 - USFCA   *August 2018 - December 2019*
- Described on-campus support provided by the CS Dep. and University for a class of 15 students
- Provided tips for good programming habits using common data structures and algorithms for 25 students
- Supported guest speakers from Lyft, Github, and Okta on tech panels present to the class on/off campus
- Provided tips on in-class oral communication skills and presentation skills

Fellow/Intern - UrbanTxT SCLA Program   *May 2019 - August 2019*
- Acted as Software Engineering Manager for 3 teams building their MVP with 3 features which they showcased to investors for their Demo Day pitch
- Taught teams of 4 high school students about business models, management, and product creation/ideation
- Lead workshops on how to use the M.E.A.N Stack, Postman, Ionic, Github, Heroku, and OpenWeatherApi

Projects:

DDOS Simulator - USFCA Senior Team Project   *January 2021 - May 2021*
- Created a fun game that teaches players about scaling performant systems and security, using Typescript
- Built a TS Api, setup DigitalOcean CD pipeline, started K8S cluster setup, & extended game logic module
- Built NodeJs Docker Image, deployed to private registry, wrote Api deploy yaml & Api pod yaml
- 3 functional endpoints used, defined CD workflow, & integrated React app with game logic module and Api

CICD Pipeline - USFCA Special Topic Final Project   *May 2021 - May 2021*
- Deployed a Flask web service to dev & prod environment in ECS, using Python
- Setup a CICD pipeline utilizing test automation, Docker, G.H. Actions, and AWS ECR & ECS services
- Wrote TDD/BDD tests, a Dockerfile to build the web service, and G.H. Actions for a CICD workflow
- On push to repo, ran unit tests, built docker image, push to ECR, deploy dev, ran bdd tests, & deploy prod

Process Tools - USFCA OS-Kernels Project   *June 2020 - August 2020*
- Extended the Xv6 operating system to support Docker-like containers, using C
- Added virtual consoles & containers; added process, memory, & container isolation; modified scheduler
- Modified & added memory & process allocation methods, system & user calls, file & container allocation
- 4 runnable containers & 4 virtual consoles; a "ctool" to manage container state; a new container scheduler

Search Engine - USFCA SWD Project   *January 2020 - May 2020*
- Created a Search Engine Web Interface using embedded Jetty and Servlets to search a word index, using Java
- Built in-memory inverted index, supported exact/partial search, supported multithreading and thread safety
- Created a Multithreaded Work Queue, a Multithreaded Word Index, a Web Crawler, and Servlets
- Implemented a multithreaded web crawler using a work queue to build a word index from a seed URL

Education:

University of San Francisco   Location: San Francisco
Major: Computer Science   ***Date Graduated: May 2021***
Awards: Dean's Honor Roll Award, Pact Program Award of Excellence

Skills:

Soft Skills: Public Speaking, Product Development, Data Analysis, Design Thinking, Agile, Scrum
Design Tools: Figma, Affinity Photo, Adobe Photoshop
Languages: Java, C, Python, TS, JS, XML, HTML, CSS, MySQL, C#, C++, Assembly, Haskel, Racket, R, PHP
Frameworks: NodeJs, Deno, Firebase, MongoDB, MariaDB, ExpressJS, Angular7, React, NextJs, Ionic, Flask, VueJS
CSS Frameworks: Bulma, Tailwind CSS, Material UI, Bootstrap
Tools: Git, Make, Postman, cURL, Docker CLI, Doctl, Kubectl, Ingress-nginx, jQuery, Jetty, Apache Commons
Interests: Cloud Computing, Music, Data Processing, Gaming, Computer Architecture, Poetry, & Full Stack Dev